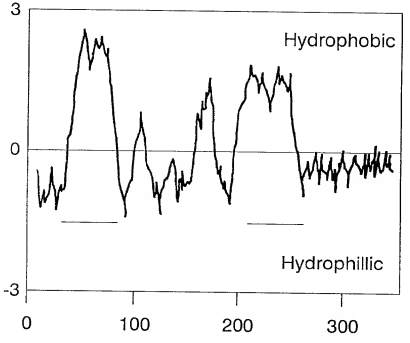


FIGURE 1A

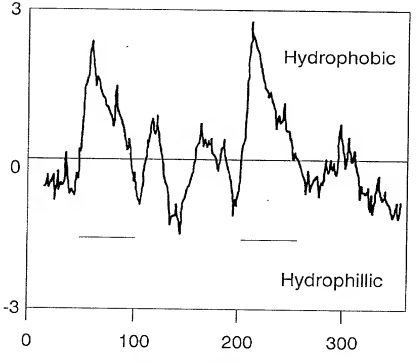


FIGURE 1B

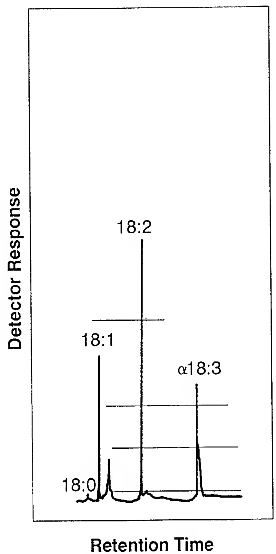


FIGURE 2A

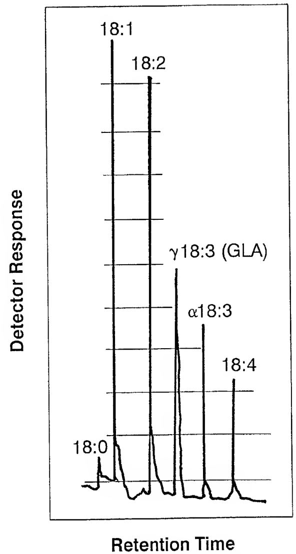


FIGURE 2B

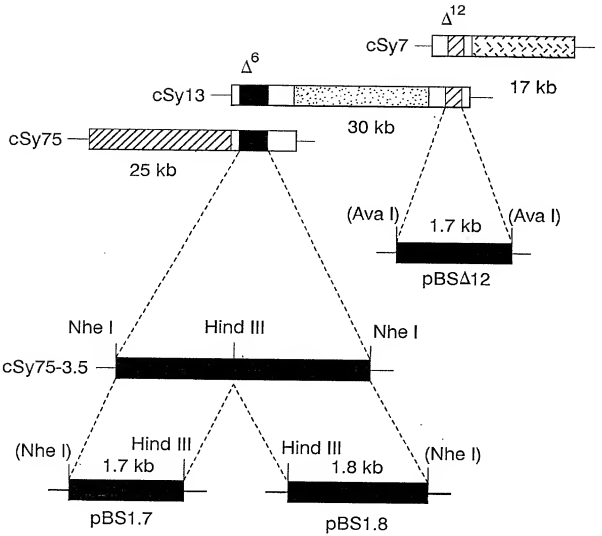


FIGURE 3

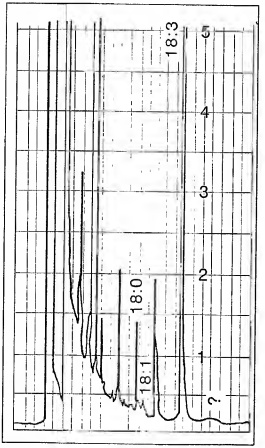


FIGURE 4A

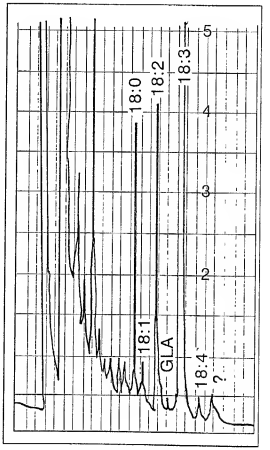


FIGURE 4B

```
   1 aatatctgcc taccctccca aagagagtag tcatttttca tcaatggctg
  81 aactcaagaa ccacgataaa cccggagatc tatggatctc gattcaaggg
 161 gaccatccag gtggcagctt tcccttgaag agtcttgctg gtcaagaggt
 241 ctctacatgg aagaatcttg ataagttttt cactgggtat tatcttaaag
 321 ataggaagct tgtgtttgag ttttctaaaa tgggtttgta tgacaaaaaa
 401 atagcaatgc tgtttgctat gagtgtttat ggggttttgt tttgtgaggg
 481 gatggggttt ctttggattc agagtggttg gattggacat gatgctgggc
 561 ataagtttat gggtattttt gctgcaaatt gtctttcagg aataagtatt
 641 cacattgcct gtaatagcct tgaatatgac cctgatttac aatatataCC
 721 ttcactcacc tctcatttct atgagaaaag gttgacttTT gactctttat
 801 cattttaccc tattatgtgt gctgctaggc tcaatatgta tgtacaatct
 881 tcctatcgag ctcaggaact cttgggatgc ctagtgttct cgatttggta
 961 gggtgaaaga attatgtttg ttattgcaag tttatcagtg actggaatgc
1041 cttcaagtgt ttatgttgga aagcctaaag ggaataattg gtttgagaaa
1121 cctccttgga tggattggtt tcatggtgga ttgcaattcc aaattgagca
1201 ccttaggaaa atctcgccct acgtgatcga gttatgcaag aaacataatt
1281 ccaatgaaat gacactcaga acattgagga acacagcatt gcaggctagg
1361 gtatgggaag ctcttcacac tcatggttaa aattaccctt agttcatgta
1441 gtgtcttgtc ttggttctac ttgttggagt cattgaaact tgtctttTat
1521 gaggttttgc tttcatctcc attattgatg aataaggagt tgcatattgt
1601 gaatgtactt tgtaccactg tgttttcagt tgaagctcat gtgtacttct
1681 tattt
```

FIGURE 5A(1)

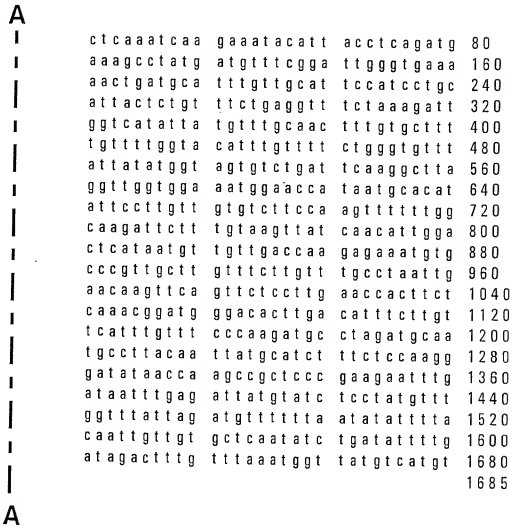

A
ctcaaatcaa gaaatacatt acctcagatg 80
aaagcctatg atgtttcgga ttgggtgaaa 160
aactgatgca tttgttgcat tccatcctgc 240
attactctgt ttctgaggtt tctaaagatt 320
ggtcatatta tgtttgcaac tttgtgcttt 400
tgttttggta catttgtttt ctgggtgttt 480
attatatggt agtgtctgat tcaaggctta 560
ggttggtgga aatggaacca taatgcacat 640
attccttgtt gtgtcttcca agttttttgg 720
caagattctt tgtaagttat caacattgga 800
ctcataatgt tgttgaccaa gagaaatgtg 880
cccgttgctt gtttcttgtt tgcctaattg 960
aacaagttca gttctccttg aaccacttct 1040
caaacggatg ggacacttga catttcttgt 1120
tcatttgttt cccaagatgc ctagatgcaa 1200
tgccttacaa ttatgcatct ttctccaagg 1280
gatataacca agccgctccc gaagaatttg 1360
ataatttgag attatgtatc tcctatgttt 1440
ggtttattag atgtttttta atatatttta 1520
caattgttgt gctcaatatc tgatattttg 1600
atagactttg tttaaatggt tatgtcatgt 1680
1685
A

FIGURE 5A(2)

```
   1 MAAQIKKYIT SDELKNHDKP GDLWISIQGK AYDVSDWVKD HPGGSFPLKS
  81 LKDYSVSEVS KDYRKLVFEF SKMGLYDKKG HIMFATLCFI AMLFAMSVYG
 161 AGHYMVVSDS RLNKFMGIFA ANCLSGISIG WWKWNHNAHH IACNSLEYDP
 241 SLSRFFVSYQ HWTFYPIMCA ARLNMYVQSL IMLLTKRNVS YRAQELLGCL
 321 GMQQVQFSLN HFSSSVYVGK PKGNNWFEKQ TDGTLDISCP PWMDWFHGGL
 401 HNLPYNYASF SKANEMTLRT LRNTALQARD ITKPLPKNLV WEALHTHG
```

A

A

7/27

FIGURE 5B(1)

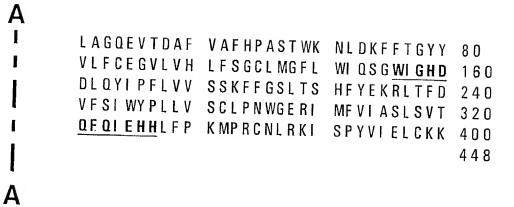


FIGURE 5B(2)

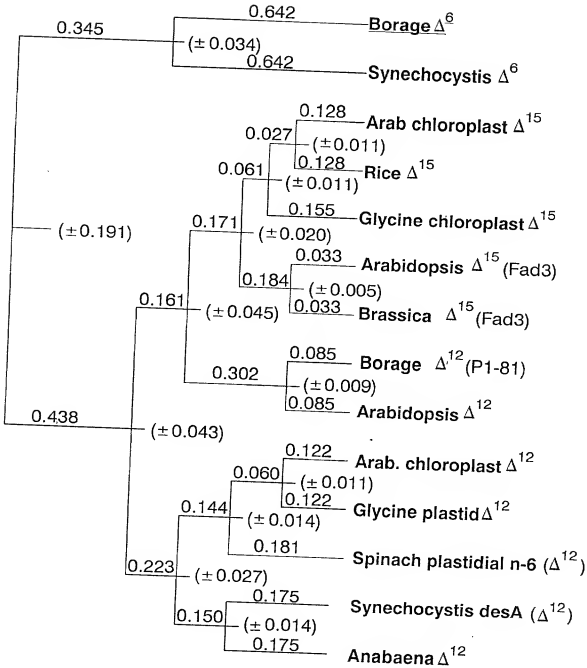


FIGURE 6

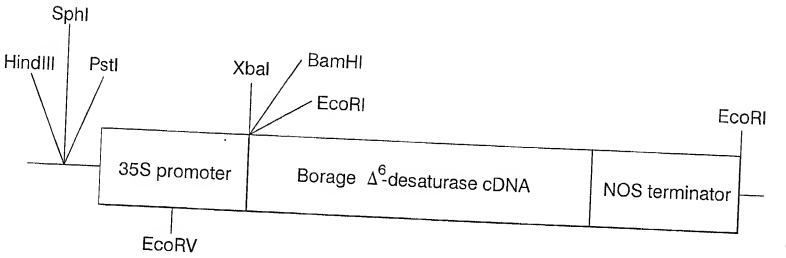


FIGURE 7

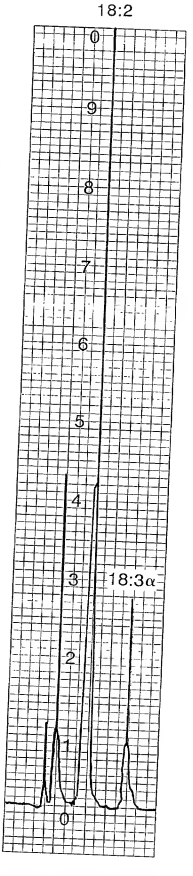


FIGURE 8A

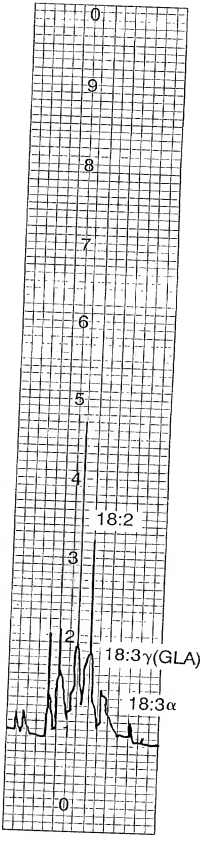


FIGURE 8B

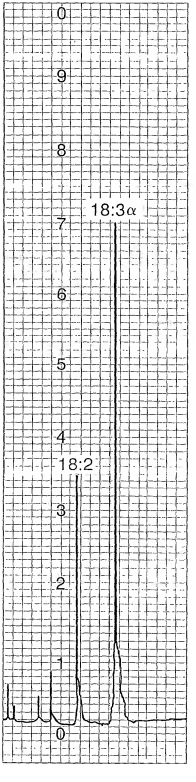


FIGURE 9A

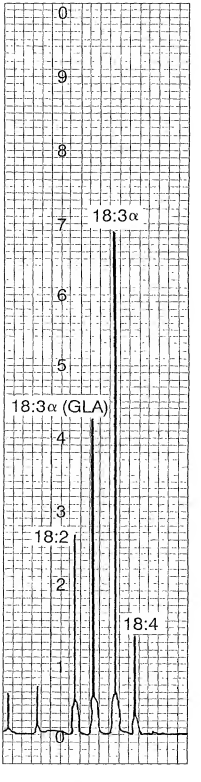


FIGURE 9B

Complete DNA sequence and deduced amino acid sequence of
Evening Primrose Putative Δ^{6}-desaturase

```
CCCCAAAAAATTTTCATTGTTCTCCATCTGGACCACAGCA

GCT AAG AAG TAT ATC ACG GCG GAG GAC CTC CGC CGC CAC AAC
A   K   K   Y   I   T   A   E   D   L   R   R   H   N
ATC TCC ATC CAG GGC AAG GTC TAC GAC GTC TCT CGG TGG GCG
I   S   I   Q   G   K   V   Y   D   V   S   R   W   A
GAG GTC CCG CTC CTC ATG CTG GCC GGC CAG GAC GTC ACC GAC
E   V   P   L   L   M   L   A   G   Q   D   V   T   D
CCG GGC ACG GCG TGG CGG CAT CTG GAT CCG CTC TTC ACC GGC
P   G   T   A   W   R   H   L   D   P   L   F   T   G
GAA GTG TCG GAG ATC TCC AAG GAC TAC CGG AGG CTT TTG AAC
E   V   S   E   I   S   K   D   Y   R   R   L   L   N
ATC TTC GAG AAG AAG GGC CAC CAC ATC ATG TGG ACG TTC GTC
I   F   E   K   K   G   H   H   I   M   W   T   F   V
GCG GCA AtC GTC TAC GGC GTG CTG GCG TCG GAG TCC GTC GGA
A   A   I   V   Y   G   V   L   A   S   E   S   V   G
GCA CTG CTG GGC TTG CTG TGG ATC CAA GCC GCG TAT GTG GGC
A   L   L   G   L   L   W   I   Q   A   A   Y   V   G
```

A - - - A

B - - - B

FIGURE 10A

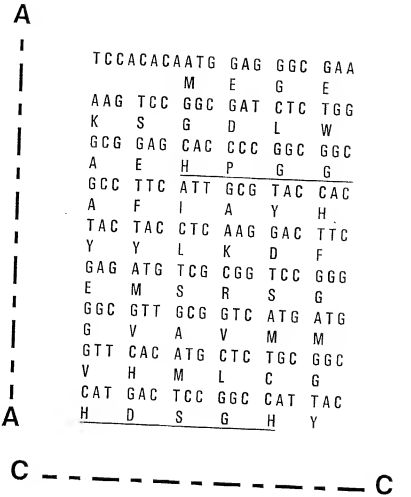

A
TCCACACAATG GAG GGC GAA
M E G E
AAG TCC GGC GAT CTC TGG
K S G D L W
GCG GAG CAC CCC GGC GGC
A E H P G G
GCC TTC ATT GCG TAC CAC
A F I A Y H
TAC TAC CTC AAG GAC TTC
Y Y L K D F
GAG ATG TCG CGG TCC GGG
E M S R S G
GGC GTT GCG GTC ATG ATG
G V A V M M
GTT CAC ATG CTC TGC GGC
V H M L C G
CAT GAC TCC GGC CAT TAC
H D S G H Y
A
C
C

FIGURE 10B

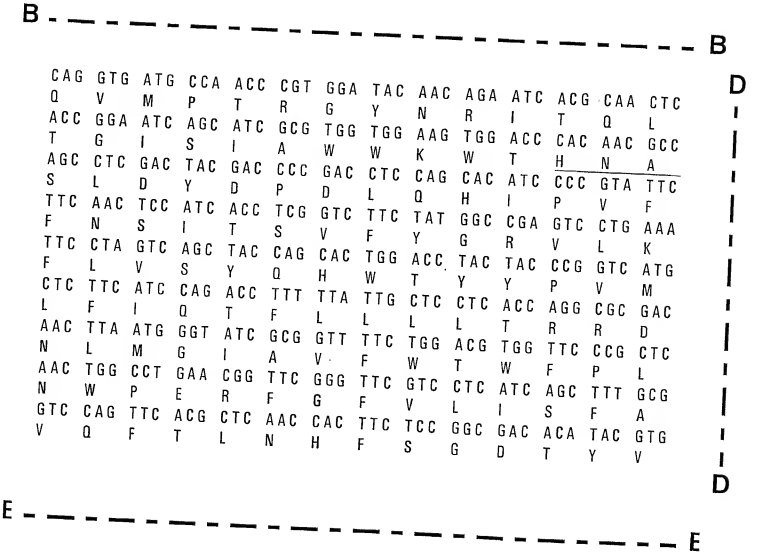

B
B
D
D
E
E
CAG GTG ATG CCA ACC CGT GGA TAC AAC AGA ATC ACG CAA CTC
Q V M P T R G Y N R I T Q L
ACC GGA ATC AGC ATC GCG TGG TGG AAG TGG ACC CAC AAC GCC
T G I S I A W W K W T H N A
AGC CTC GAC TAC GAC CCC GAC CTC CAG CAC ATC CCC GTA TTC
S L D Y D P D L Q H I P V F
TTC AAC TCC ATC ACC TCG GTC TTC TAT GGC CGA GTC CTG AAA
F N S I T S V F Y G R V L K
TTC CTA GTC AGC TAC CAG CAC TGG ACC TAC TAC CCG GTC ATG
F L V S Y Q H W T Y Y P V M
CTC TTC ATC CAG ACC TTT TTA TTG CTC CTC ACC AGG CGC GAC
L F I Q T F L L L L T R R D
AAC TTA ATG GGT ATC GCG GTT TTC TGG ACG TGG TTC CCG CTC
N L M G I A V F W T W F P L
AAC TGG CCT GAA CGG TTC GGG TTC GTC CTC ATC AGC TTT GCG
N W P E R F G F V L I S F A
GTC CAG TTC ACG CTC AAC CAC TTC TCC GGC GAC ACA TAC GTG
V Q F T L N H F S G D T Y V

FIGURE 10C

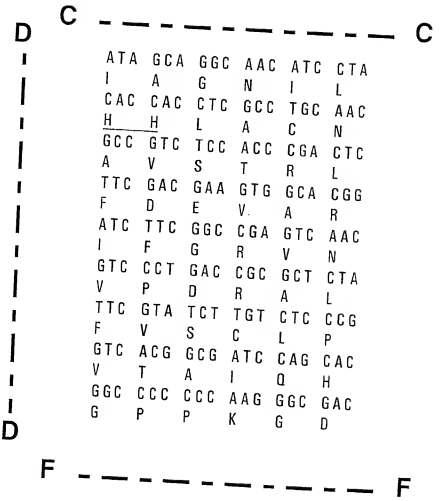

C
C
D
D
F
F
ATA GCA GGC AAC ATC CTA
I A G N I L
CAC CAC CTC GCC TGC AAC
H H L A C N
GCC GTC TCC ACC CGA CTC
A V S T R L
TTC GAC GAA GTG GCA CGG
F D E V A R
ATC TTC GGC CGA GTC AAC
I F G R V N
GTC CCT GAC CGC GCT CTA
V P D R A L
TTC GTA TCT TGT CTC CCG
F V S C L P
GTC ACG GCG ATC CAG CAC
V T A I Q H
GGC CCC CCC AAG GGC GAC
G P P K G D

FIGURE 10D

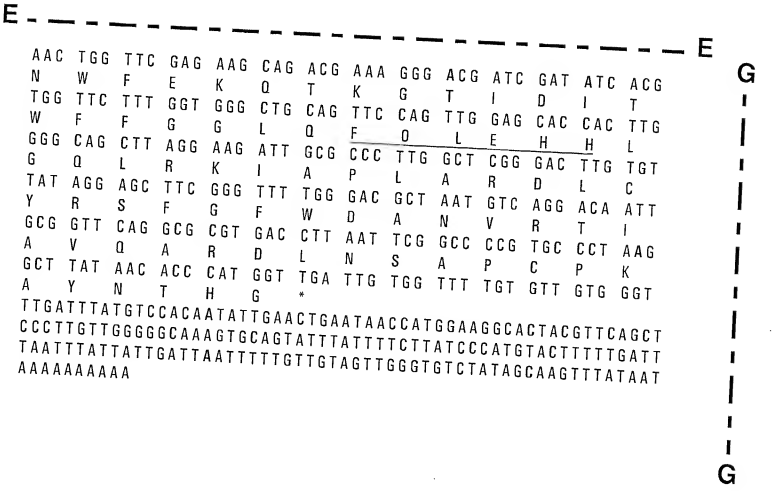


FIGURE 10E

F - - - - - - - - - - F

G

```
TGC CCA CCG TGG ATG GAC
C   P   P   W   M   D
TTC CCT AGG CTG CCG CGT
F   P   R   L   P   R
AAG AAG CAC GGG ATG CCG
K   K   H   G   M   P
CGG ACG CTG AGG GAT GCG
R   T   L   R   D   A
AAA CTT GGG TAT GGG GAA
K   L   G   Y   G   E
TGG AGG ATC TTC TTA TTA

TAACTTTGCTAGCTGGTTGCGTT
ATTGTTCTTATTCGTATCATAAA
ACTGAGATATATTTTTTTGGTAA
```

G

FIGURE 10F

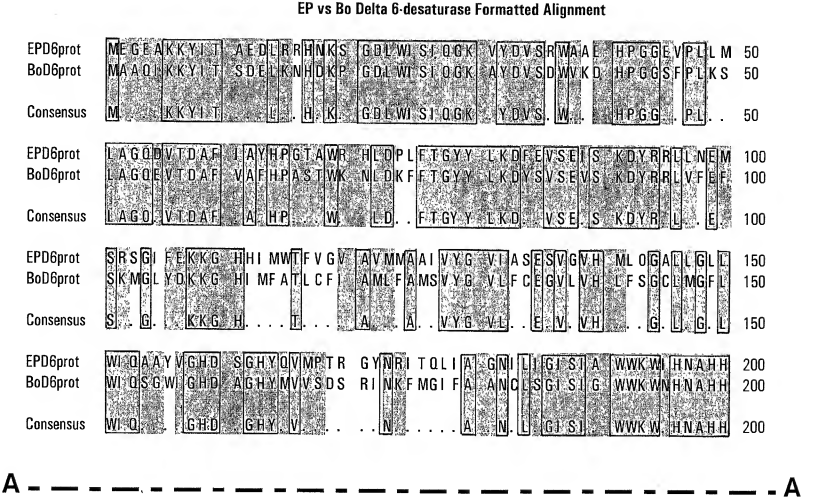


FIGURE 11A

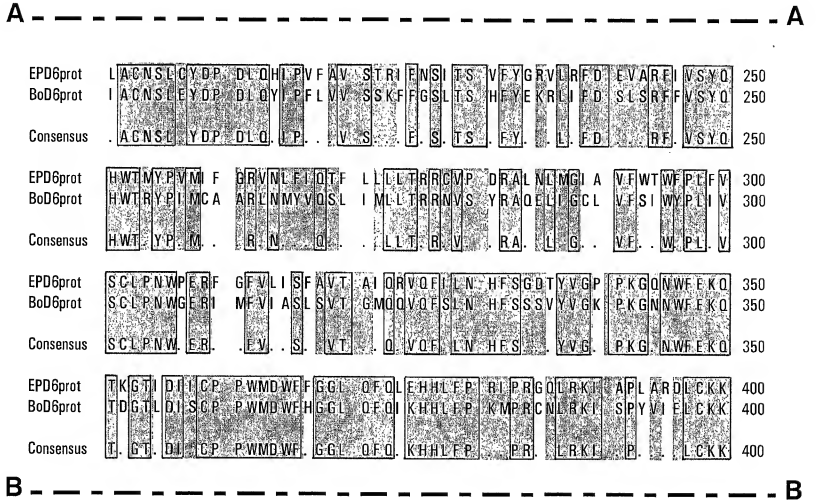
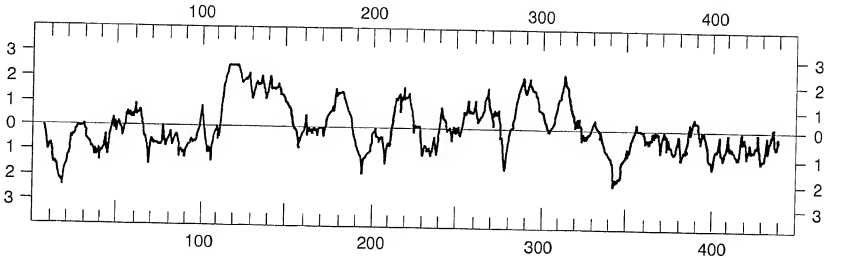


FIGURE 11B

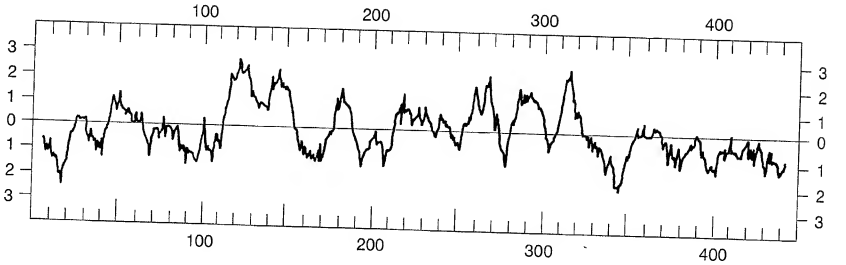
```
B - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - B

EPD6prot   HGMPYRSFGF WDANVRTIRT LRDAAVQARDLNSAPQPKKL GYGEAYNTHG  450
BoD6prot   HNLPYNYASF SKANEMTLRT LRNIALQARDI-TKPLPKNL VW-EALHTHG  448

Consensus  H..PY....F ..AN..T.RT LR..A.QARD....P.PK.L ...EA..THG  450
```

FIGURE 11C



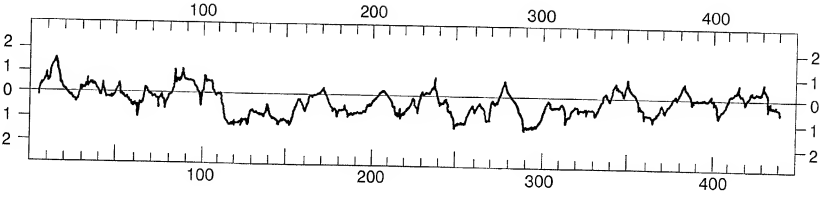
Borage Δ^6-Desaturase Kyte-Doolittle Hydrophobicity Plot

FIGURE 12A



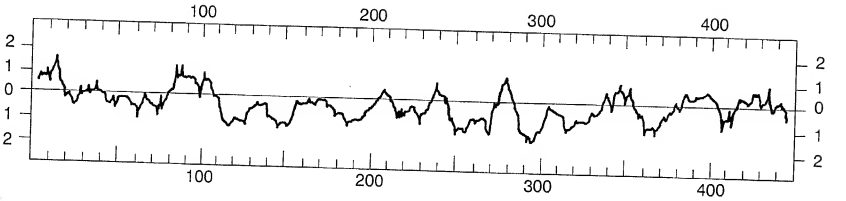
Evening Primrose Putative Δ^6-Desaturase Kyte-Doolittle Hydrophobicity Plot

FIGURE 12B



Borage Δ^6-Desaturase Hopwood Hydrophilicity Plot

FIGURE 13A



Evening Primrose Putative Δ^6-Desaturase Hopwood Hydrophilicity Plot

FIGURE 13B

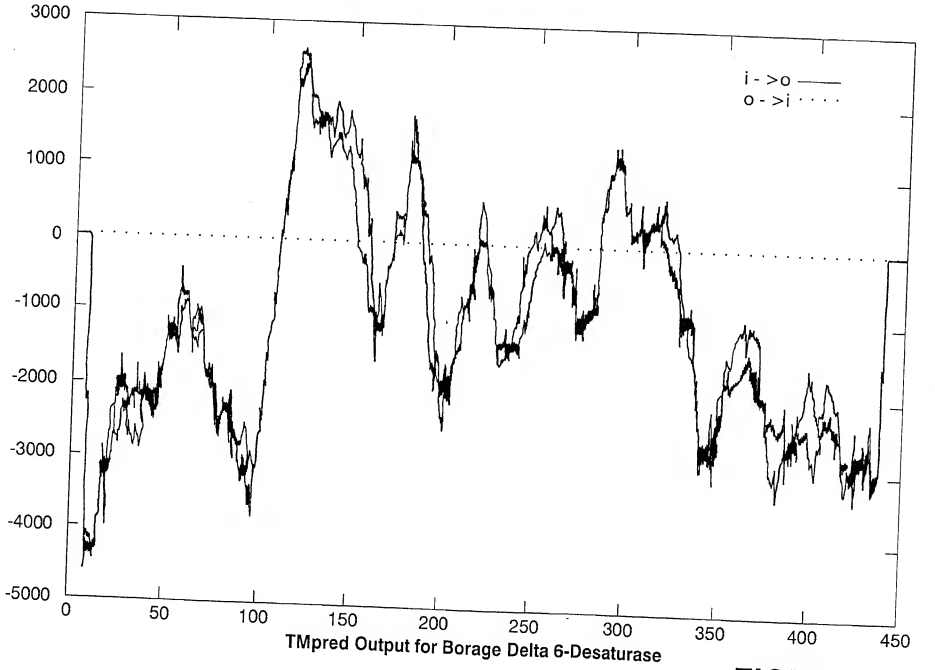

3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
0
50
100
150
200
250
300
350
400
450
i - >o
o - >i
TMpred Output for Borage Delta 6-Desaturase

FIGURE 14A

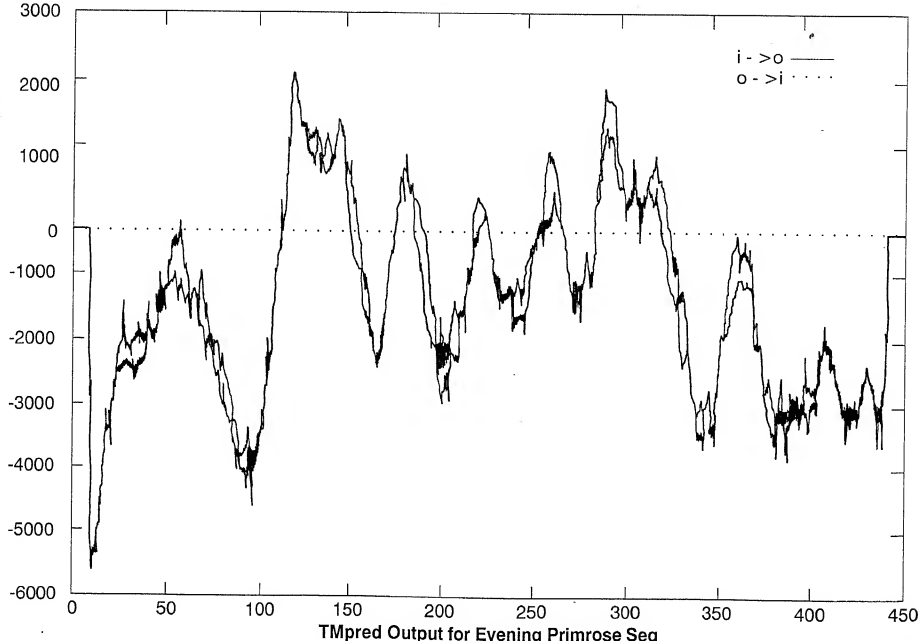


FIGURE 14B